

August 16, 2013

Ms. Marlene H. Dortch
Secretary
Federal Communication Commission
445 12th Street SW
Washington, DC 20554

Re: Notice of *Ex Parte* Communication, WC Docket No. 13-184

Dear Ms. Dortch:

On August 13, 2013, Jay Cawley, Director of Technology for the Morgan County Charter School System, Bailey Mitchell, Director of Technology for the Forsyth County School System, Jesse Peavy, Director of Technology for the Bleckley County Schools, and Chris Shealy, Director, Technology Services for the Georgia Department of Education (collectively, Technology Directors) spoke via telephone with Charles Eberle and Mark Walker of the Wireline Competition Bureau. The purpose of the call was to discuss the school districts' wide area network (WAN) infrastructure, Internet speeds and rates, and technology plans for the coming years, and also to seek the districts' input on the Commission's July 23, 2013 Notice of Proposed Rulemaking in the above-referenced docket. The Technology Directors provided the following information during the call:

- *Statewide K12 Network.* The Georgia Department of Education operates a statewide network that provides 3 Mbps Internet access per school for all Georgia public schools. Mr. Shealy said that Georgia pays \$12.7 million/year for the Statewide K12 Network. Districts may also purchase additional Internet access through a state master contract, but the Technology Directors agree that most districts have rolled off this contract in recent years because prices have dropped considerably.
- *WAN infrastructure, speeds, and costs.* All three school districts have dark fiber networks originally installed in the 1990s that have been upgraded to meet increased demand. Forsyth County combines 1 Gbps circuits from AT&T (\$41,600/month) and Comcast (\$40,500/month) to deliver 2 Gbps of connectivity to each of its 36 schools (42,000 students in total). Forsyth has expanded from 11 to 36 schools since a local cable company built the original dark fiber education network in 1996. Bleckley County's five schools (2,450 students in total) are connected by a 10 Gbps WAN that operates over dark fiber donated by a local cable company in 1997. Morgan County installed its own dark fiber network in the early 1990s. That network serves the primary, elementary, and high schools at 3 Gbps and is being upgraded. The district pays \$5,000/month for a 10 Gbps connection to its middle school and a 1Gbps connection to its alternative school. Morgan County has a total of five schools and 3,300 students.

- *Internet access.* Forsyth's 1.2 Gbps Internet access connection consists of 200 Mbps from the K12 Network, 500 Mbps from Comcast at \$4,250/month, and 500 Mbps from Windstream at \$6,575/month. Bleckley has a 100 Mbps Internet access connection, consisting of 15 Mbps from the state K12 Network, 35 Mbps purchased from AT&T at \$1050/month, and 50 Mbps purchase from ComSouth at \$1500/month. Morgan County purchases 200 Mbps Internet access for \$2,200/month in addition to 15 Mbps of Internet access provided through the Statewide K12 Network.
- *Competitive bidding and negotiation.* The Technology Directors agreed that AT&T is the largest broadband provider in Georgia and that there is limited competition outside the Atlanta metropolitan area. Mr. Mitchell encouraged the Commission to provide school districts with more information on competitive prices. He suggested that the Commission publish a cost map so that districts can know if they are getting good deals on technology and telecommunications services.
- *WiFi capabilities.* All three districts purchase high-capacity Xirrus wireless access points (WAPs) with up to 16 radios each. Mr. Mitchell stated that a typical high school in his district (roughly 2,200 students) currently requires 22 of these WAPs, at a cost of approximately \$4,000 each including cabling and installation, and that those needs will grow as BYOD expands. Forsyth County has a WiFi network in every school that is capable of supporting the first stages of the district's BYOD initiative. Mr. Mitchell estimated that 23,000-26,000 unique devices connect to district WiFi networks on a typical school day in addition to 23,000 devices provided by the schools. Bleckley County uses less expensive, lower-capacity WAPs in its elementary and primary schools at this time. Bleckley's goal is a WiFi network that provides 150 Mbps connections at all points on all campuses. Morgan County is currently deploying a second generation WiFi network and plans to support one-to-one WiFi in the near future. In addition to permitting BYOD, Morgan provides 900 WiFi-capable devices and 1400 wired end points. Mr. Cawley explained that Morgan uses a thin client architecture, which acts as a "leveling agent" for students that cannot supply their own devices, because the network and applications can be accessed from any device on campus or at home.

The Technology Directors emphasized the need to consider coverage capabilities and device density when deploying WiFi in schools and explained that they have purchased more expensive, high-capacity WAPs because they anticipate a high density of wireless devices. Forsyth County also uses a responsive web design resource that can detect the type of device connected to the network and scale streaming video to minimize bandwidth usage and also prefers purchase software systems with responsive web capabilities..

- *Interactive online tools and cloud computing.* The Technology Directors all agreed that school websites have evolved to become more interactive and provide a number of services to students, teachers, and parents. They discussed the importance of learning management systems (LMS) and student information systems (SIS). Mr. Cawley said that teachers use the LMS to access digital content, customize learning plans, and set learning objectives. The districts also offer “parent portals,” web-based applications that are part of the SIS and allow parents to access information on grades, attendance, behavior, and student health. Parents frequently log in to the districts’ parent portals, usually from a mobile device. A typical SIS can also distribute notifications to parents through mass texts, calls, and emails. These interactive tools require substantial technology infrastructure.

Interactive tools often make use of cloud computing. Forsyth County's LMS is entirely cloud-based, while its SIS is hosted on district servers but backed up on the cloud. Bleckley County's SIS is entirely internal, Mr. Peavy had concluded that cloud hosting would be more expensive for his smaller district. Parent portal applications are typically hosted on internal servers but notifications are routed through a cloud vendor because districts do not have enough phone lines or Internet capacity to reach all parents simultaneously. A typical mass messaging service costs \$2 per student per year.

The Technology Directors said that cloud computing enables 24/7 access to the LMS and other services to promote afterhours learning. Cloud computing will increase districts' Internet access costs due to higher bandwidth needs but potentially save money on internal server, engineering, and maintenance costs. Moving data to a reliable cloud server also ensures access for students on nights and weekends.

- *Misc*
 - Mr. Peavy said it is important for USAC to streamline the E-rate application approval process so that school districts can have more certainty.
 - Mr. Mitchell said that USAC audits are often too long, complicated, and costly for school districts and suggested that the Commission review the process.

Respectfully submitted,

/s/
Charles Eberle

Attorney-Adviser, Telecommunications Access Policy Division, Wireline Competition Bureau